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PHOTOGRAPHIC
INTERPRETATION
REPORT

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

LIU-CHUNG NAVAL RESEARCH AND DEVELOPMENT FACILITY FU-HSIEN, CHINA

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ABSTRACT

1. Liu-chung Naval Research and Development Facility Fu-hsien is on a lake near Kun-ming in Yunnan Province, China, at 24-35-30N 102-50-35E . It is probably engaged in torpedo testing and other types of research and development (R&D) activity. The facility consists of six areas: a berthing facility, an R&D area, a torpedo test facility, a housing/support area, and two small mooring facilities. A large catamaran and four special-purpose barges at the facility are probably used in R&D activity.

2. This report is based primarily It contains a detailed description and photographs of each area, pertinent dimensions, and drawings of several special purpose barges observed at the berthing facility.

INTRODUCTION

3. Liu-chung Naval R&D Facility is at the northwestern edge of Fu-hsien Lake, 30 nautical miles (nm) south of Kun-ming (Figure 1). The lake is approximately 15 nm long and is surrounded by high bluffs which isolate the facility. A single road connects the installation with the cities of Kun-ming and Cheng-chiang. Although several villages are situated along the shore of the lake, very little civilian activity, such as fishing, has been observed.

4. Construction of the facility began between January and August 1967 and it was probably operational by March 1970. Most of the vessels seen at the berthing facility were apparently constructed there. What was probably the catamaran, the largest vessel on the lake, was under construction at the berthing facility in March 1970.

5. One area of the installation has been identified as a torpedo test facility similar to the one at Morris Dam, California. This area contains a long ramp inclined along a steep hill.

6. Other specific programs of the facility cannot be identified, but it is likely they involve underwater or submersible activity. Several of the vessels observed on the lake could be used to support an SLBM pop-up test program similar to that at the US facility at San Clemente.[1]

7. Very little movement of the vessels on Fu-hsien Lake has been observed, possibly indicating that the facility is not yet fully operational. The movements of specific vessels have been described in this report where they might indicate special functions.

BASIC DESCRIPTION

8. Four of the six areas comprising the installation are concentrated in an area approximately 8,000 feet long at the northwestern edge of Fu-hsien Lake (Figure 2). These areas are the berthing facility, the R&D area, the torpedo test facility, and the housing/support area. The two small mooring facilities are at the northern and southern ends of the lake.

Berthing Facility

9. The berthing facility consists of two quays a pier three building/repairways, and a support facility (Figure 3). One quay was under construction in August 1967 and the second was being built in September 1969. Both quays were complete by March 1970. The pier was under construction in July 1972 and complete by November 1972. The facility is secured by a fence.

10. The three building/repairways are on the southeast side of the berthing facility and were present on photography of December 1968. Most of the vessels observed at the facility were probably constructed on these building/repairways. The largest of the vessels, the 145-foot catamaran, was under construction on one of the building/repairways in March 1970. A rectangular unidentified object

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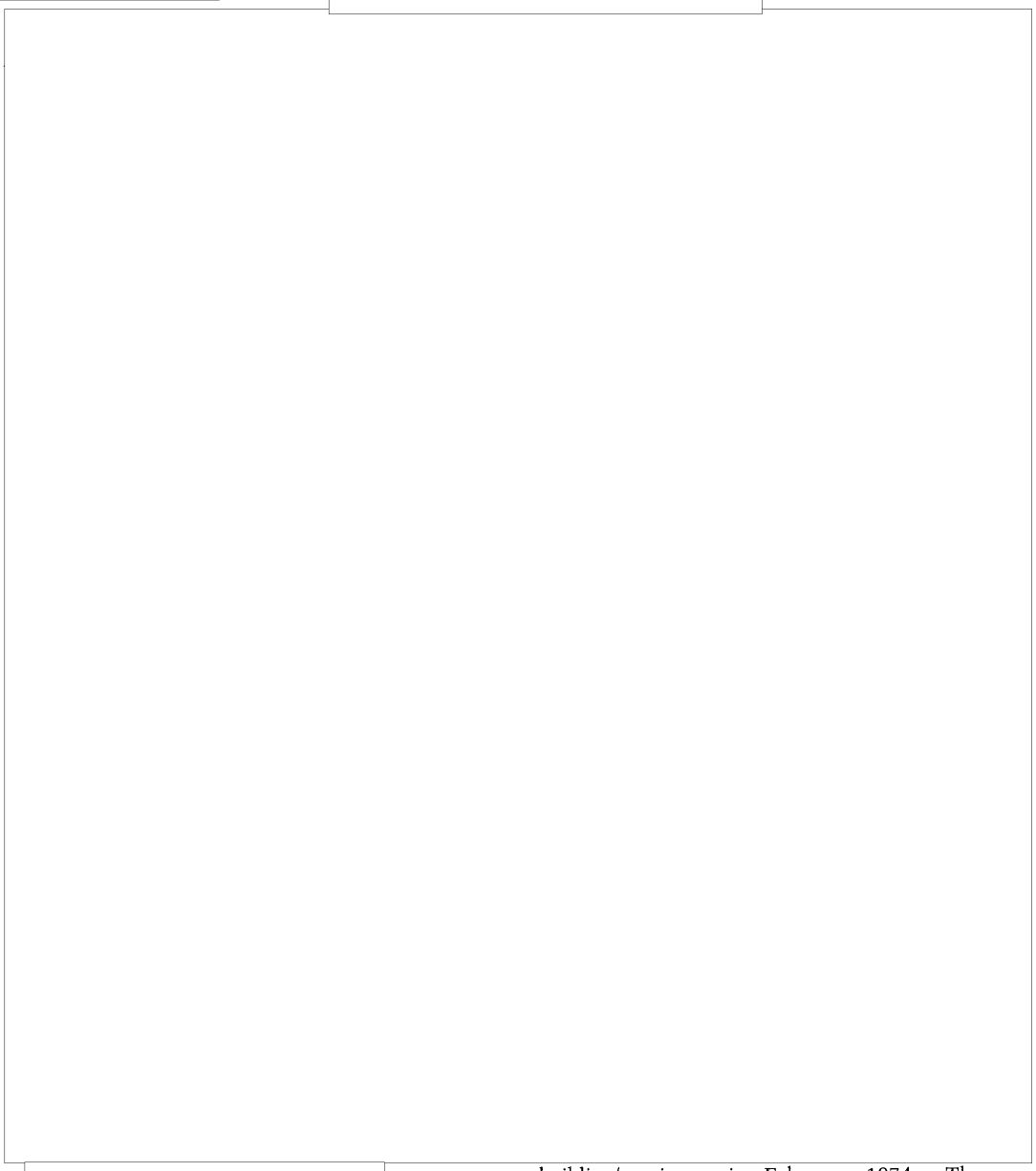

was on one building/repairway in February 1974. The building/repairways also serve for routine maintenance of the vessels at the facility. A YU-CHAI LCM support craft was observed here in December 1972.

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11. The support facility for the berthing facility is adjacent to the quays and consists of a shop building with three stacks, two storage buildings, four support buildings, and a basketball court. Three probable spherical pressure tanks are directly behind one of the storage buildings. Numerous pieces of equipment including a BMK 150 motor launch, two small fishing boats, a small crane, a generator, and two concrete mixers were present in February 1974. Two concrete slabs were apparently being fabricated on the quay in February 1974. Concrete building sections for the construction of piers and quays in several areas were fabricated in similar fashion at the same quay in July 1972.

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12. Thirteen vessels and barges are associated with the installation and are usually seen at the berthing facility. Eight of these are support craft and five are special function vessels. The largest vessel at the naval facility is the catamaran, measuring 145 by 45 feet. This vessel was constructed on the building/repairway between March 1970 and April 1971. A traveling overhead crane, 95 feet long with rails is centered over the well formed by the twin hulls of the vessel. The rails are supported by two heavy A-frames and the rails extend past the end of the hulls. Forward

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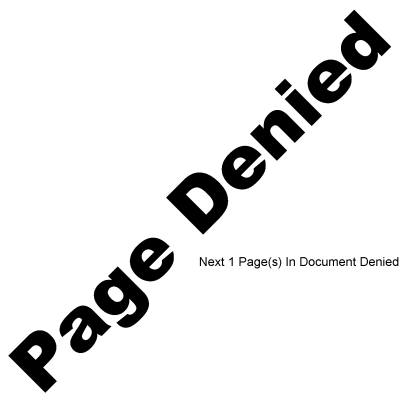

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of the well, the vessel is fitted with a high bridge spanning the entire beam. The bridge and both decks aft of the bridge appear to be covered by stretched canvas.

13. The catamaran has rarely been observed away from the quay at the berthing facility. In August 1972, the vessel was dead in the water approximately 2,000 feet northeast of the berthing facility and in July 1972 it was mediterranean-moored to the shore near the building/repairways. One of the special purpose barges was in the well of the catamaran in January 1972 and in July 1974 an unidentified object was in the well.

14. Two special-purpose barges and two barge-like objects have also been seen at the berthing facility. The smaller of the two barges (barge A) (Figure 4). It has an inclined way with two probable rails running longitudinally along its center section. A possible winch is aft of the inclined way. A possible pilot house with at least one small mast is at the starboard side and another raised section is at the port side. All of the raised sections appear to be canvas covered. A crane is mounted on the starboard side in front of the possible pilot house and two mooring winches are on either side of the bow.

15. Barge A has been observed at or near the quay at the R&D area 2,000 feet south of the berthing facility. On two occasions, in July and August 1972, the forward section of the inclined way appeared to be covered. In December 1972, a tentlike structure was observed over the forward part of the craft while it was at the berthing facility. The function of this barge cannot be determined from available photography, but its design indicates that it can discharge or retrieve small, but relatively heavy objects, possibly submersible objects.

16. The second special-purpose barge (barge B) and has two raised sections (Figure 5). A possible open well is between the two sections. Two open towers between the raised sections were added between February and July 1974. A tower, possibly a pilot house, is aft of the two open towers. The top of the tower is canvas covered. An observation deck with a possible small antenna is atop one of the raised sections. A crane is mounted at the end of the barge opposite the towers and mooring winches are at each corner of

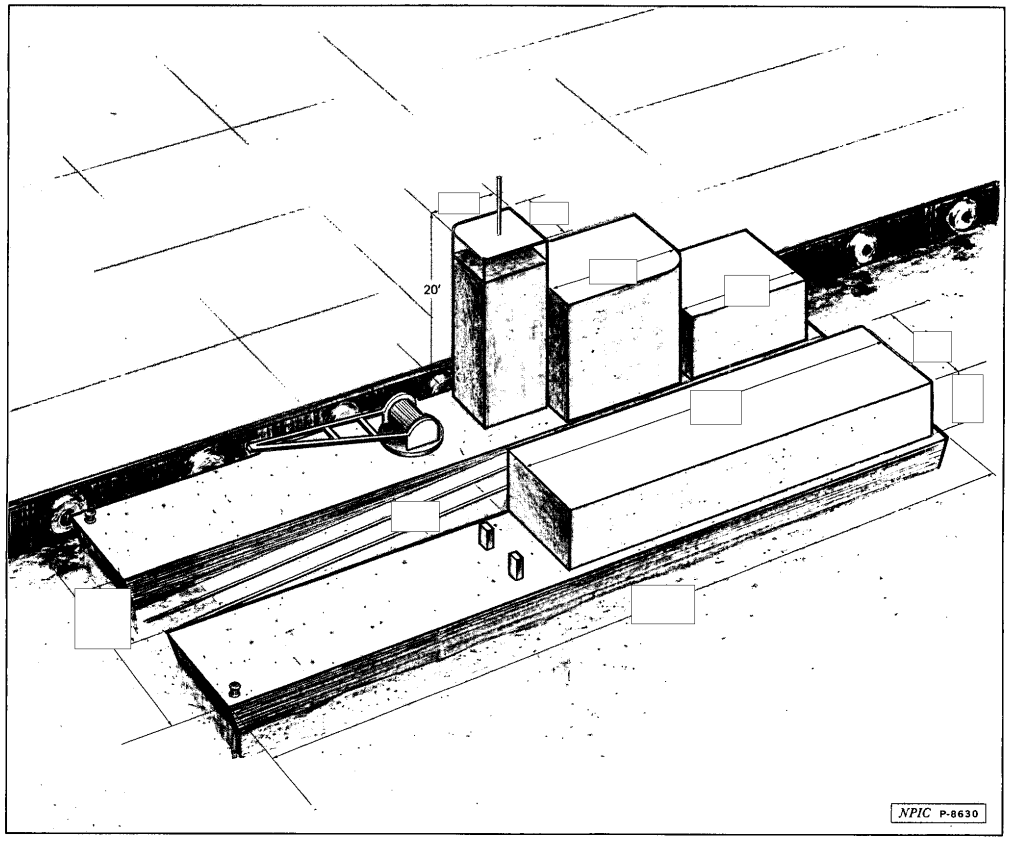

FIGURE 4. BARGE A

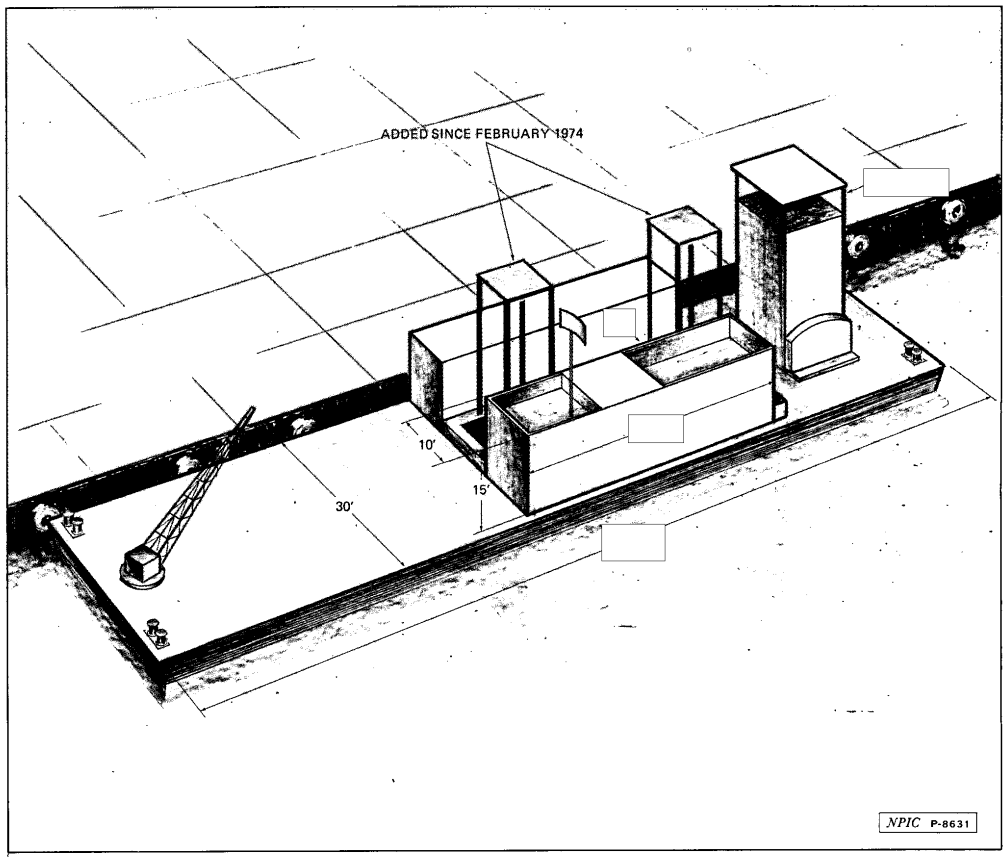

FIGURE 5. BARGE B

the barge.

17. Barge B has been observed away from the quay at the berthing facility only once. It was near the building/repairways with the catamaran in July 1972.

18. The first of the two barge-like objects (barge C) [redacted] It was constructed on the building/repairways between August and December 1972. The structure was canvas covered until January 1974, when the cover had been removed. The interior of the structure is divided into three equal sections, [redacted] The structure was probably still under construction when seen in April 1974.

19. Barge C was seen at the berthing facility through February 1974. In April 1974 it was seen at the quay in the R&D area. A ramp connected the barge with the southeastern end of the quay and the structure was again covered. A permanent roof had been built over the barge by July 1974. This barge may be used as an offshore observation platform.

20. The second barge-like object (barge D) at the berthing facility [redacted] (Figure 6). Barge D has two possible rails [redacted] over what appears to be an open framework. A short column with a hemispherical cap [redacted] is between the rails; it projects above the rails in the center of the barge.

21. What was probably barge D was seen in the well of the catamaran in January and February 1972. Since then it has been seen in several positions in the berthing facility. By May 1974 it had been removed from the water and was sitting on the pier.

22. Of the eight support craft observed at the facility, two are work barges which are used in construction and maintenance of the facility. One of the barges is a large floating shearlegs crane [redacted] The second work barge is a large floating jib crane [redacted] feet. Other craft seen at the facility are a YU-CHAI-class LCM, a Yulin River patrol craft (PBR), [redacted]

a small probable transport or ferry, two small probable LCMs, the BMK 150 motor launch, and a powerboat.

R&D Area

23. The R&D area, 3,200 feet south of the berthing facility, consists of an operational facility and a housing/support area (Figure 7). The area is served by a single road, part of which is surfaced with concrete. Most of the area is secured by a wall.

24. The operational facility consists of two long R&D buildings, one small R&D building, a semirevetted special-purpose building, six adit entrances, two possible adit entrances, three storage bunkers, one small drive-in support building, five support buildings, a quay, and a small instrumentation/observation building.

25. Each of the R&D buildings and the special-purpose building have large drive-in entrances. Six small horizontal tanks directly behind the special-purpose building are probably connected to the building by an overhead pipeline.

26. Four of the adit entrances near the R&D buildings probably house underground transformers or related equipment. Four powerlines radiate from one of the adits and the area is similar to other hardened transformer yards. One support building near the adits is also probably associated with electric power.

27. A large possible adit is in the hill just west of the R&D quay. This adit may be connected by a tunnel to a smaller adit which opens on the quay. Two probable rails, [redacted] appear to follow the road from the small adit at the quay to a point near the western end of the R&D buildings. A set of rails branches from the main rails to a covered adit entrance. Another set of rails probably branches from the main rails to the southeastern side of the quay. 25X1

28. The quay [redacted] and was constructed about the same time as the remainder of the facility. Support craft are often seen at the quay and barge A has been observed near the southeastern end of the quay against the bluff. Mooring pylons have been constructed along the base of the bluff. A small ramp, partially covering the rails, was at the southeastern end of the quay in February 1974. [redacted] this ramp was attached to barge D, which was observed away from the berthing facility for the first time. 25X1 25X1

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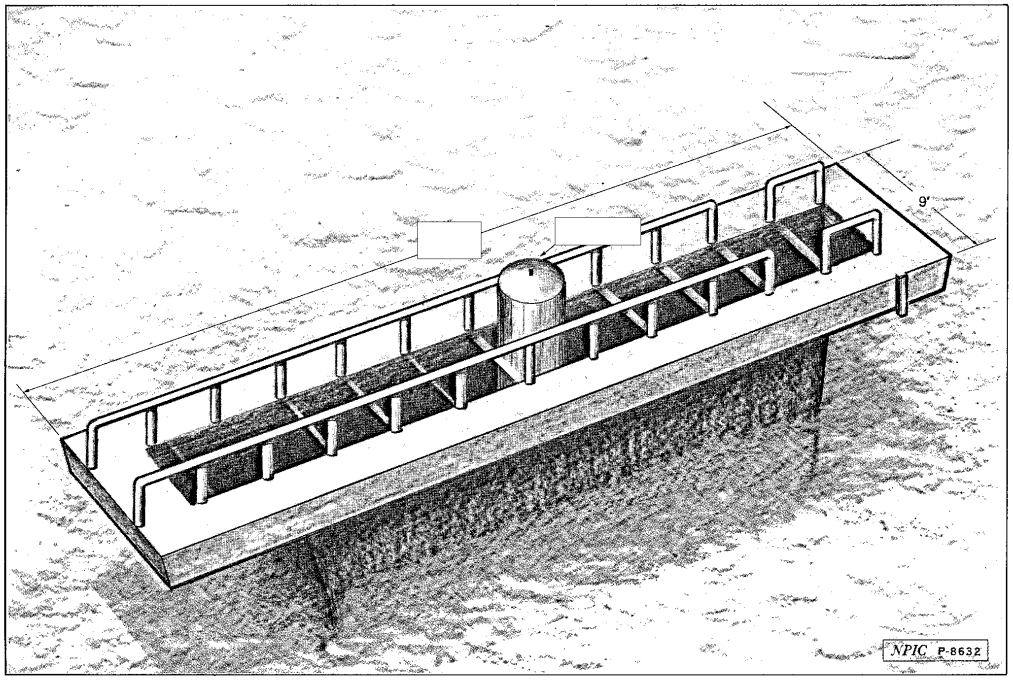

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FIGURE 6. BARGE D

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29. A probable test area is approximately 250 feet east of the quay. Three mooring buoys in a V-shaped pattern were in this area in August 1972. At the same time, barge A was moored against the bluff with the front portion of its inclined way covered by a tent.

30. A small observation and instrumentation building, 105 feet above water level, is on the bluff southeast of the quay and overlooking the probable test area. The building is 30 by 25 feet by 20 feet high. A covered observation deck with open sides is on the upper level of the building and a small pylon, probably for cameras or instrumentation, is on a small semicircular projection on the front corner of the building. A cut-out area 10 by 5 feet at the front of the building may also house instrumentation. A possible instrumentation position covered by a small roof was on the shore of the lake 200 feet northwest of the quay. This position was removed in April 1974.

31. A small platform, almost at water level, is below the observation/instrumentation building. This platform was carved out of the hill and may actually be the opening of another possible adit, possibly connecting with the other two near the quay. There is no other access from this platform to the remainder of the R&D facility. A concrete piling is in the water near the platform. Several ropes or cables connect the piling with the platform and one of them runs into the water. This piling may be another mooring pylon or may be used for remote-support cables in underwater operations.

32. The R&D housing/support area contains eight two- or three-story quarters, a messhall, a guardhouse, a probable firehouse, four support buildings, one building under construction, and a basketball court. The basketball court and one other open area are used for open storage of building materials.

Torpedo Test Facility

33. A torpedo test facility similar to the US torpedo test facility at Morris Dam, California (Figure 8), is 2,500 feet south of the R&D area. This fence-secured area is served only by water with no roads or trails connecting it to the other areas of the installation (Figure 9).

34. A steel-framed torpedo test track is along the hill in the southern part of the area. The test track, [redacted] is inclined along the hill at an angle of approximately 25 degrees. Its base, a concrete platform, [redacted] Two small control buildings are near the base of the test track. An instrumentation position is near the test track [redacted] above the surface of the lake. 25X1 25X1 25X1

35. An observation/instrumentation position, similar to that at the R&D area, is in a support area 300 feet north of the test track. The area also contains two support buildings and a [redacted] quay. Another observation position just north of the observation/instrumentation building was under construction in February 1974 and complete in July 1974. 25X1

36. Construction of the torpedo test facility generally paralleled construction of the other areas of the facility, beginning in November 1967. By December 1968, the facility appeared to be complete except for the quay, which was first seen under construction in December 1972. The quay was complete by March 1973.

Housing/Support Area

37. The main housing support area is midway between the berthing facility and the R&D area on the edge of a small village. The area is partially secured by a wall and the valley in which it is situated.

38. The housing support area consists of 19 two-story quarters, eight storage/support buildings, two shop buildings, a grease rack, five latrines, and two basketball courts. A part of the area may be a school.

39. The housing/support area was under construction in August 1967 at approximately the same time as the other areas.

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Activity

40. With the exception of torpedo testing, most of the activity at Liu-chung Naval Research and Development Facility remains unidentified. However, the presence of special-purpose vessels and of observation/instrumentation positions that are probably not required for torpedo testing suggests other test programs may be taking place here.

41. No unique test or support equipment has been identified at the installation. The only vehicles that have been observed are cargo trucks and truck-mounted cranes. Consequently, the movement of the special-purpose vessels in the facility provides almost the only indicator of activities or test programs. The scarcity of activity suggests that some of the test programs may not be operational.

42. Special-purpose vessels observed to have made significant moves within the facility are barges A and C, both which have been observed at the R&D quay. Throughout July and August 1972 barge A was moored near the southeastern end of the quay and at the quay itself. The forward part of the inclined way was covered by a tent. The tent possibly covered a piece of equipment transferred from the R&D quay to barge A and later discharged by its inclined way (Figure 10). The design of the barge suggests that the equipment may be submersible.

43. Three mooring buoys in the test area 300 feet east of the quay in August 1972 indicate that a test program possibly was in progress at that time (Figure 10).

REFERENCES

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MAPS OR CHARTS

ACIC. US Air Target Chart, Series 200, Sheet M0496-22HL, 2d ed, Feb 68, scale 1:200,000 (SECRET

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ACIC. Tactical Pilotage Chart, Series 500, TPC H11D, 1st ed, Aug 68, scale 1:500,000 (UNCLASSIFIED)

DOCUMENT

1. CIA. IAS/MD/ANB MSG 071957Z, 7 Feb 74 (TOP SECRET RUFF)

REQUIREMENT

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